APPENDIX

IN THE SPECIFICATION:

Please amend the paragraph beginning on page 13, line 17, as follows:

"In an additional embodiment, two calibration rectangles 305 are simultaneously utilized in the video display [widow] window 200. The pixels representing the objects in each calibration rectangle 305 may be simultaneously calibrated. In one embodiment, the calibration rectangles 305 are at fixed locations in the video display window 200. In another embodiment, the calibration rectangles 305 are moveable relative to each other. In such an embodiment, calibration may only occur if the objects in each window both have standard deviations below a set level. In an additional embodiment, multiple objects are tracked, but only one calibration window is utilized. First, one object must be calibrated and tracked. Thereafter, additional objects may be calibrated and tracked."

Please amend the paragraph beginning on page 15, line 17, as follows:

"Figure 7D illustrates a first test window's location according to an embodiment of the present invention. The [claibration] calibration rectangle 305 is three pixels wide and two pixels tall (3x2). In an embodiment having a 3x2 calibration rectangle 305, the test window is also 3x2. The system first analyzes the group of six pixels for a 3x2 area located two pixels to the left and one pixel up from the location of the calibration box 305. As shown in Figure 7D, there is an overlap of one

pixel between the calibration box 305 and the test window 795. The system acquires the pixel data for this group of pixels. Then, the system shifts the test window 795 to the next location."

Please amend the paragraph beginning on page 16, line 3, as follows:

"Figure 7E illustrations a second test window's 795 location according to an embodiment of the present invention. In Figure 7E, the entire test window [as] has been shifted 1 row to the right. This time the test window 795 has an overlap of 2 pixels with the calibration rectangle. After the pixel data is acquired for this group of pixels, the test window 795 is shifted again. In the preferred embodiment, the test window 795 is shifted to the right three additional times, at which point the only overlap between the calibration rectangle 305 and the test window 795 is 1 pixel: the pixel in the bottom left-hand corner of the test window, which overlaps the pixel in the upper right-hand corner of the calibration rectangle 305. The test window is then shift down one row and four columns to the left, so that the two pixels on the right side of the test window 795 overlap the two pixels on the left side of the calibration rectangle 305. The process is repeated, and the test window is shifted to the right until the only overlap between the test window 795 and the calibration rectangle 305 is the pixels on the left side of the test window 795 and the pixels on the right side of the calibration rectangle 305."

IN THE CLAIMS:

Please amend claims 1, 4-11, 13, and 15-18; cancel claims 2, 12, 19, and 20; and add new claims 21-28 as follows:

1. (Amended) An automated calibration system [for tracking] to track a [colored] selected object through a series of frames of data, comprising:

a [first processing] display device to [execute a program, wherein the program] display[s] at least one image frame received from an image input device, wherein the image frame includes a calibration window;

an image selection device to select, via the calibration window, the [colored] selected object in the at least one image frame;

an image source device to provide a hue saturation value (HSV) data array of pixels [in] forming the [colored] at least one image frame [object]; and

[a second processing device] an analysis module to [analyze] determine analysis data for pixels within the calibration window, based on the HSV data array, [wherein] and determine test analysis data for a set of adjacent test windows, each of the adjacent test windows having a same shape as the calibration window, wherein tracking data, to track the selected object, is selected from one of the calibration window and the adjacent test windows having a highest tracking probability [the second processing device determines characteristics of the pixels in the at least one image frame that are to be associated with the object based on a probability].

4. (Amended) The system of claim 1, wherein the [first processing device, the image selection device,] the image source device [,] and the [HSV thresholding device and the second processing device] analysis module are [all] part of a single

device.

5. (Amended) The system of claim 1, wherein the [second processing device] analysis module calculates a mean hue and a standard deviation of a hue of the pixels representing the colored object.

6. (Amended) The system of claim 5, wherein if at least one of the mean hue [or] and the standard deviation of the hue [are] is less than predetermined levels, the colored object is not tracked.

7. (Amended) The system of claim 1, wherein the [second processing device] analysis module calculates a mean saturation and a standard deviation of a saturation of the pixels representing the [colored] selected object.

8. (Amended) The system of claim 7, wherein if at least one of the mean saturation [or] and the standard deviation of the saturation [are] is less than predetermined levels, the selected object is not tracked.

9. (Amended) A method of calibrating a computer-vision system to track a [colored] selected object through a series of frames of data, comprising:

[executing a program to display] displaying at least one image frame from an image input device, wherein the image frame includes a calibration window;

providing an [calibration] image selection device to select the [colored] selected object, via the calibration window, from the at least one image frame;

[performing calibration processing to ensure that the object selected is trackable throughout the series of frames, wherein the calibration processing analyzes pixel data of the object; and

creating a table from the pixel data for the object]

determining a hue saturation value (HSV) data array of pixels forming the at least one image frame;

determining analysis data for pixels within the calibration window based on the HSV data array; and

determining test analysis data for a set of adjacent test windows, each of the adjacent test windows having a same shape as the calibration window, wherein tracking data, to track the selected object, is selected from the one of the calibration window and the adjacent test windows having a highest tracking probability.

10. (Amended) The method of claim 9, wherein the method further includes converting a pixel data array for the at least one image frame from a red-green-blue colorspace (RGB) data array to the HSV data array.

11. (Amended) The method of claim [9] 28, [wherein the method] further [includes] including applying the pixel data from an entire frame to the pixel-classification look-up map, wherein if the amount of the pixels associated with the object [are] is greater a predetermined amount, the calibration method restarts.

13. (Amended) The method of claim [13] 10, wherein the method further includes thresholding the HSV data array of pixels [in the colored object] and disregarding pixel data for each of the pixels having a product of a saturation coordinate and a value coordinate below a predetermined threshold amount.

15. (Amended) The method of claim [10] 14, wherein the method includes restarting the calibration method if at least one of the mean hue [or] and the standard deviation of the hue [are] is less than predetermined levels.

16. (Amended) The method of claim 10, wherein the method further

calculating a mean saturation and a standard deviation of a saturation of the pixels in the [colored] selected object.

17. (Amended) The method of claim 16, wherein the method includes restarting the calibration method if [a] the mean saturation or the standard deviation of the saturation are less than predetermined levels.

18. (Amended) The method of claim 10, wherein the method further includes allowing the user to select the [colored] selected object.

21. (New) The system of claim 1, wherein the analysis module further includes a thresholding module to disregard pixel data for each of the pixels having a product of a saturation coordinate and a value coordinate below a predetermined threshold amount.

22. (New) The system of claim 1, wherein the calibration window is smaller than the at least one image frame.

23. (New) The system of claim 1, wherein each of the adjacent test windows have a same size as the calibration window.

24. (New) The system of claim 1, wherein each of the adjacent test windows have at least one pixel overlapping with the calibration window.

25. (New) The method of claim 9, wherein the calibration window is smaller than the at least one image frame.

26. (New) The method of claim 9, wherein each of the adjacent test windows has a same size as the calibration window.

27. (New) The method of claim 9, wherein each of the adjacent test windows have at least one pixel overlapping with the calibration window.

28. (New) The method according to claim 9, wherein the method further includes creating a pixel-classification look-up map for the HSV data array of pixels.